

REMARKS

This is in response to the Office Action dated July 10, 2003. Claim 9 has been canceled. Thus, claims 1-8 and 10-16 are now pending.

Examiner's Indication of Allowable Subject Matter

Applicant notes with appreciation the Examiner's indication that claims 3, 5 and 9-16 contain allowable subject matter. In this regard, claims 3 and 5 have essentially been rewritten in independent form so as to now be in clear condition for allowance.

Moreover, subject matter of allowable claim 9 has been added to independent claim 6.

Also, claim 10 has been amended herein in order to address and overcome any potential Section 112 issue. Thus, *according to the Examiner's indication of allowable subject matter, claims 3, 5-8 and 10-16 are now in clear condition for allowance.*

General

For purposes of example only and without limitation, certain example embodiments of this invention relate to an LCD including an auxiliary capacitance. For example, the Fig. 1-3 embodiment of the instant application includes an auxiliary capacitance electrode 8 which is located over a substantial portion of the display screen and overlaps a majority portion of a plurality of pixel electrodes 10. Importantly, an area of the auxiliary capacitance electrode 8 has been removed in an area 14 (e.g., slit) between adjacent pixel electrodes. In other words, the auxiliary capacitance electrode 8 is not present in slit region 14 between adjacent pixel electrodes 10. Surprisingly, it has been found that the removal of the auxiliary capacitance electrode 8 in an area 14

between adjacent pixel electrodes results in improved display performance. In particular, as shown in Fig. 3, in a central portion 19 of the pixel electrode 10 an electric field is formed in a direction perpendicular to the pixel electrode 10 and to the opposed electrode 18 (the direction of the electric field is shown with broken lines in Fig. 3). Although distortion of the electric field is generated at an end 20 of the pixel electrode 10, in the first embodiment, *the intensity of the transverse electric field exerted from the auxiliary capacitor electrode 8 to the pixel electrode 10 is much reduced as compared with the prior art because the auxiliary capacitor electrode 8 has been removed from the area corresponding to the gap between the pixel electrodes 10* (e.g., see paragraph 0053 of the instant specification). Consequently, liquid crystal orientation disorders can be reduced and/or prevented.

In certain embodiments such as in Figs. 6 and 8, the light-shielding film (38, 101) is distributed over a display screen such that it is located in a peripheral region of at least some pixel electrodes. In such embodiments, the light-shielding film need not overlap a majority portion of each pixel electrode.

Claim 1

Claim 1 is the only remaining claim subject to an art rejection. Claim 1 stands rejected under 35 U.S.C. Section 102(e) as being allegedly anticipated by Nakagawa (US 6,525,788). This Section 102(e) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires "an auxiliary capacitor electrode formed over a majority portion of a display screen in such a manner that the auxiliary capacitor electrode is opposed to and overlaps a majority portion of each of a plurality of the pixel electrodes, with an insulation film interposed therebetween, a region of the auxiliary capacitor electrode corresponding to a gap between adjacent pixel electrodes having at least partially been removed." The cited art fails to disclose or suggest the aforesaid underlined and quoted aspects of claim 1.

Nakagawa discloses an LCD including floating electrodes 11 provided in gaps between pixel electrodes. However, Nakagawa significantly differs from the invention of claim 1 with regard to the size and location of the alleged auxiliary capacitance electrodes. In particular, Nakagawa's floating electrodes 11 overlap very *little* of the pixel electrodes, and are provided over a very *small* portion of the display screen.

Thus, Nakagawa cannot possibly disclose either of the following two requirements of claim 1: (1) an auxiliary capacitor electrode formed "over a majority portion of a display screen"; and (2) an auxiliary capacitor electrode that overlaps a "majority portion" of each of a plurality of the pixel electrodes. Nakagawa clearly fails to disclose or suggest each of these aspects (1) and (2) of amended claim 1. Moreover, Nakagawa teaches directly away from claim 1 since Nakagawa's floating electrodes are provided in only a very small portion of the display screen and overlap on minimal portions of pixel electrodes. Nakagawa is unrelated to the invention of claim 1.

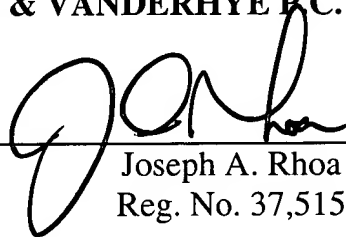
Conclusion

For at least the foregoing reasons, it is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

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